CHAPTER 6 - NONPOINT SOURCES (CATEGORY VII NEEDS)

INTRODUCTION

Although a large part of the nation's water quality problem is attributable to nonpoint source (NPS) pollution, few States have systematically documented their NPS needs using the CWNS. State water quality reports indicate that overenrichment of waters by nutrients is the biggest overall source of impairment of the nation's rivers and streams, lakes and reservoirs, and estuaries. In the 1996 report *Indicators of Water Quality in the United States*, States reported that 40 percent of surveyed rivers, 51 percent of surveyed lakes, and 57 percent of surveyed estuaries were impaired by nutrient enrichment. Agriculture is the most widespread source, followed by municipal sewage treatment plants, urban runoff and storm sewers, and various other nonpoint sources. Sources of NPS pollution are land-use-based and include various land-disturbing and development activities. Common nonpoint sources of pollution include agriculture, silviculture, atmospheric deposition, channelization, contaminated sediments, contaminated ground water, runoff from highways, hydrological and habitat modification, land development, land disposal, acid mine drainage, marinas, onsite disposal systems, recreational activities, removal of riparian vegetation, resource extraction, shoreline modification, and streambank destabilization.

This chapter describes the methods and procedures for determining and documenting NPS needs for the CWNS 2000. The procedures and requirements defined below were developed by the CWNS Nonpoint Source Workgroup, which included two State Needs Survey Coordinators, three State Nonpoint Source Coordinators, one EPA CWNS Regional Coordinator, and representatives from EPA headquarters. The entire CWNS 2000 Workgroup has reviewed and approved these procedures.

Why Should Your State Participate in Adding NPS Needs to the CWNS Database ?

Nonpoint source needs were included in the 1996 CWNS, but the NPS costs documented were very low relative to the overall survey. Although a large number of the nation's water quality problems are attributable to NPS pollution, few States documented NPS needs for the 1996 CWNS. To help assess NPS needs in 1996, EPA used a model to estimate the need for controlling certain categories of NPS pollution, especially agriculture (both cropland and confined animal facilities) and silviculture, for which there was very little documented data. The model was aggregated from county-level data in USDA's National Resources Inventory, which is a statistically based sample of land use and natural resource conditions and trends on U.S. nonfederal lands.

Until all States participate as fully as possible, NPS needs will continue to be underrepresented to Congress. Although EPA does not expect that all NPS needs will be able to be documented for the CWNS 2000, it is important that

all States put as much data as possible into the Survey, to help EPA get a more complete picture of water quality-related needs in the country.

Since one of the objectives of the CWNS 2000 is to improve the documentation of NPS needs, every effort will be made to provide as complete a report as possible to Congress on the NPS needs documented by States. EPA acknowledges the difficulty in documenting NPS needs to the standards provided below, and a greater emphasis will be placed on NPS needs included in the Separate State Estimates (SSEs) needs in the CWNS 2000 report to Congress when compared to previous reports.

Documenting NPS Needs Will Take a While So Don't Wait Until the Last Minute!

Although the data entry period for the CWNS 2000 runs from April through October 2000, it is important not to wait to start work on collecting and entering needs data. Make contacts, compile data, and get the information in as soon as possible. This is especially important for NPS needs. Because NPS documentation is not as standardized or clear-cut as that for a typical wastewater treatment facility, some review by EPA or the contractor may be necessary before acceptance of needs into the CWNS. As a reminder, the schedule for the CWNS 2000 is as follows:

Data entry	<	can start any time after you receive your CWNS software
Official CWNS 2000 kickoff	<	March 2000
Data to be included in the CWNS 2000 report to Congress	<	must be in database and approved by EPA by February 2001
CWNS 2000 end-of-Survey meeting	<	March 2001

NPS and the CWNS 2000: The Big Picture

Each State conducts its NPS program a little differently. That difference between states made organizing the CWNS as a nationwide system to document NPS needs a very daunting task. The fact that the data system and all the terms and definitions it uses were originally conceived to document point source pollution made the challenge to expand the CWNS to incorporate NPS needs even greater.

The modernization of the CWNS to meet NPS needs while still maintaining the integrity of the data system overall has been difficult. However, EPA and the States involved in the modernization process believe that the system has made great strides towards making NPS needs feel "at home" alongside the point source needs in the CWNS. But what this ultimately means is that anyone who works with NPS pollution should understand the need for compromise in an effort like the CWNS.

Four terms that are used often in CWNS jargon. Learning these, and how they apply to NPS, will make the rest of the chapter and actual data entry easier to comprehend.

Facility. This term is probably the most confusing because it is typically associated with a wastewater treatment facility or some other structure. In an NPS context, however, the term "facility" basically refers to a **place**.

Need. This term is typically used to describe the water quality or public health problem plus the costs to address the problem. However, it is sometimes used to describe the problem only.

Nature. "Nature" is officially defined as "The present or planned characteristics of each part of the selected facility." Think of this as the pollution-generating activities at the place. To put this in an NPS context, when you see the term "nature," substitute the term "**source**."

Cost Category. Cost categories are used to organize the cost data in the CWNS in a systematic and consistent way. The names of cost categories, however, look exactly the same as the natures. Although this might make it confusing to decide which one is being talked about, it should also make your life easier since you need to familiarize yourself with only one way of organizing the data.

COLLECTING NPS NEEDS DOCUMENTATION

If you have not been very involved with your State's NPS pollution program, you might not be aware of the NPS information that is currently available.

Each State has an NPS management program that includes an identification of the best management practices (BMPs) and measures to be undertaken to reduce pollutant loadings, an identification of programs (such as programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects) to achieve implementation of the best management practices, and a schedule containing annual milestones for use of the program implementation methods and implementation of the best management practices.

These best management practices are based on the State's Nonpoint Source Management Plan/Assessment Report, which identifies navigable waters within the State that require action to control nonpoint sources of pollution to attain or maintain applicable water quality standards. The report identifies nonpoint sources that add significant pollution to each portion of the navigable waters, describes the process for identifying best management practices and measures to control nonpoint sources, and identifies and describes State and local programs for controlling pollution added from nonpoint sources.

State NPS Coordinators

The first person you need to contact in your State is your State NPS Coordinator. He or she is the person responsible for developing and maintaining your State's NPS management program and will be your best source of information. A list of the current State NPS Coordinators is provided in Table 6-1.

Table 6-1. State NPS Coordinators

State	Lead Agency	Coordinator's Name	Phone Number
Alabama	Department of Environmental Management	Norm Blakely	(334) 271-7700
Alaska	Department of Environmental Conservation	Susan Braley	(907) 465-5308
Arizona	Arizona Department of Environmental Quality	Carol Aby	(602) 207-4601
Arkansas	Soil and Water Conservation Commission	Earl Smith	(501) 682-3979
California	Water Resources Control Board	Ken Harris	(916) 657-0876
Colorado	Department of Public Health and Environment	Laurie Fisher	(303) 692-3570
Connecticut	DEP, Bureau Of Water Management	Stanley Zaremba	(860) 424-3730
Delaware	DNRC, Division of Soil & Water Conservation	Nancy Goggin	(302) 739-3451
Florida	Department of Environmental Protection	Eric Livingston	(904) 921-9915
Georgia	Water Quality Management Program	Frank Carubba	(404) 656-4905
Hawaii	Hawaii Department of Health/Env Mgmt Division	Denis Lau	(808) 586-4309
Idaho	Water Quality Bureau	Gary Daily	(208) 373-0587
Illinois	Illinois EPA, Bureau of Water, Planning Section	Rick Mohallan	(217) 782-3362
Indiana	Indiana Department of Environmental Management	Susan McLoud	(317) 233-8491
Iowa	Department of Natural Resources	Ubbo Agena	(515) 281-6402
Kansas	Department of Health and Environment	Donald Snethen	(913) 296-5567
Kentucky	Kentucky Division of Water - NPS Section	Corrine Wells	(502) 564-3410
Louisiana	Department of Environmental Quality	Jan Boydstun	(504) 765-0546
Maine	Maine Department of Environmental Protection	Norman Marcotte	(207) 287-7727
Maryland	Maryland Department of Natural Resources	Elizabeth Bouton	(410)260-8730
Massachusetts	DEP, Bureau of Resource Protection	Eben Cheseborough	(508) 767-2798
Michigan	Michigan Department of Environmental Quality	Susan Benzie	(517) 241-8707
Minnesota	Minnesota Pollution Control Agency	Faye Sleeper	(651) 297-3365
Mississippi	Control, Surface Water Division	Zoffee Dahmash	601-961-5137
Missouri	Missouri Department of Natural Resources, WPCP	Becky Shannon	(573) 751-4422
Montana	Montana Department of Environmental Quality	Stuart Lehman	(406) 444-5319
Nebraska	Nebraska Department of Environmental Quality	Elbert Traylor	(402) 471-2585
Nevada	Nevada Division of Environmental Protection	Kathy Sertic	(775) 687-4670
New Hampshire	New Hampshire Dept of Environmental Services	Eric Williams	(603) 271-2358
New Jersey	New Jersey Dept of Environmental Protection	Liz Rosenblatt	(609) 633-1441
New Mexico	Environment Dept, Surface Water Quality Bureau	Peter Monahan	(505) 827-1041
New York	Department of Environmental Conservation	Gerard Chartier	(518) 457-8961
North Carolina	North Carolina DENR, Division of Water Quality	Alan Clark	(919) 733-5083
North Dakota	SWP-NPS Pollution Control Program	Greg Sandness	(701) 328-5232
Ohio	Ohio EPA, Division of Surface Water	Gail Hesse	(614) 644-2001
Oklahoma	Office of Secretary of Environment	J.D. Strong	(405) 530-8995
Oregon	Department of Environmental Quality	Ivan Camacho	(503) 229-5088
Pennsylvania	Department of Environmental Protection	Russel Wagner	(717) 787-5259
Rhode Island	Department of Environmental Management	Jim Riordan	(401) 222-4700
South Carolina	Department of Health and Environmental Control	Doug Fabel	(803) 734-4222
South Dakota	Department of Environment & Natural Resources	James Feeney	(605) 773-4216
Tennessee	Tennessee Department of Agriculture	John McClurkan	(615) 837-5303
Texas	Texas Natural Resources Conservation Commission	Arthur Talley	(512) 239-4546
Utah	Department of Environmental Quality	Roy Gunnell	(801) 538-6065
Vermont	Department of Environmental Conservation	Rick Hopkins	(802) 241-3770
Virginia	Department of Conservation and Recreation	J. Richard Hill, Jr.	(804) 786-7119
Washington	Department of Ecology	David Roberts	(360) 407-6414
West Virginia	Division of Environmental Protection	Lyle Bennett	(304) 558-2108
Wisconsin	Wisconsin Department of Natural Resources	Russell Rasmussen	(608) 267-7651
Wyoming	Department of Environmental Quality	Beth Pratt	(307) 777-7079
Puerto Rico	Water Quality Planning Bureau	Rubin Gonzalez	(787) 767-8181

Many states have multiple designated management agencies that are responsible for NPS controls for a variety of sources. Your state NPS Coordinator can help you identify all of these other agencies, as well as other groups that might have valuable NPS information.

Regional NPS Coordinators

If needed, another point of contact is the NPS Coordinator for your EPA region. Although the Regional NPS Coordinator might not be able to provide you with many specifics about your State NPS data sources, he or she will definitely be able to provide general guidance and advice regarding where to go and what groups to talk to. A list of the current Regional NPS Coordinators is provided in Table 6-2.

DON'T FORGET THE SRF

Many states have been funding NPS projects with their State revolving loan fund programs. In your state, the SRF program might be administered by a different agency than you work for, so don't forget to talk to your state SRF Coordinator to find out what the SRF program has planned as future NPS projects. A list of the current Clean Water SRF agencies and contacts is provided in Table 6-3.

Nonpoint Source Facility Datasheet

Sometimes the person collecting the data to be entered into the CWNS database is not the same person who is actually doing the data entry. Table 6-4 has been created to make it easier for the data gatherer and the data enterer to communicate. This data sheet lists all the pieces of data that are required to enter needs into the database. This worksheet is not required, but it is a tool available for states to use to help organize their NPS data and communicate between NPS staff and CWNS staff on the State level.

Types of NPS Needs

The CWNS 2000 is somewhat different from the 1996 CWNS. For the CWNS 2000, the categories for NPS needs have been renumbered and new categories added. This will provide a more accurate assessment of NPS needs for each category, so it is important that NPS needs be properly categorized.

What Type of NPS Activities Should Be Included in the CWNS?

In general, all costs associated with facilities or measures to develop and implement NPS management programs should be included in the CWNS, as long as the facilities or measures are meant to address water quality or public health-related problems. Both new projects and retrofits of existing measures should be included. In addition, operation and maintenance costs may also be documented and included in the CWNS.

Table 6-2. Regional Nonpoint Source Coordinators

Region 1 *ME, NH, VT, MA, CT, RI* Warren Howard, (617) 918-1587	**Region 6** *NM, OK, TX, LA, AR* Brad Lamb, (214) 665-6683
Region 2 *NY, NJ, PR, VI* Donna Somboonlakana, (212) 637-3700	**Region 7** *NE, IA, KS, MO* Peter Davis, (913) 551-7372
Region 3 *PA, DE, MD, VA, WV, DC* Fred Suffian, (215) 814-5753 Hank Zygmunt, (215) 814-5750	**Region 8** *UT, CO, WY, MT, ND, SD* Kris Jensen, (303) 312-6237
Region 4 *KY, TN, NC, SC, GA, FL, AL, MS* Mark Nuhfer, (404) 562-9390	**Region 9** *CA, NV, AX, HI, GU, TT, AS, MP* Audrey Shileikis, (415) 744-1968
Region 5 *MN, WI, MI, IL, IN, OH* Karen Bell, (312) 353-8640 Tom Davenport, (312) 886-0209	**Region 10** *AK, WA, OR, ID* Christine Reichgott, (206) 553-1601

Table 6-3. Clean Water SRF Agencies and Contacts

State	Agency	Contact Name	Phone Number
Alabama	Alabama Department of Environmental Management	David Hutchinson	334-271-7805
Alaska	Alaska Department of Environmental Conservation	Mike Burns	907-269-7516
Arizona	Arizona Water Infrastructure Finance Authority	Brian Davis	602-230-9770
Arkansas	Arkansas Department of Pollution Control & Ecology	Michael L. Chandler	501-682-0546
	Arkansas Development Finance Authority	Kristi March	501-682-5900
California	State Water Resources Control Board	Edward C. Anton	916-227-4428
Colorado	Colorado Water Resources & Power Development Authority	Daniel L. Law	303-830-1550
	Colorado Department. of Public Health & Environment	Debbie Stenson	303-692-3554
	Colorado Department Of Local Affairs	Barry Cress	303-866-2352
Connecticut	Department of Environmental Protection	Robert J. Norwood	860-424-3746
	Office of the Treasurer	Sharon Dixon Peay	860-702-3134
Delaware	Dept. of Natural Resources & Environmental Control	Alan J. Farling	302-739-5081
Florida	Florida Department of Environmental Protection	Mike Murphree	850-488-8163
Georgia	Georgia Environmental Facilities Authority	Greg Mason	404-656-3824
	Georgia Environmental Protection Division	Bob Scott	404-675-1753
Hawaii	Hawaii Department of Health	Dennis Tulang	808-586-4294
	Hawaii Department of Health, Wastewater Branch	George Woolworth	808-586-4294
Idaho	Division of Environmental Quality	Bill Jerrel	208-373-0400
Illinois	Illinois Environmental Protection Agency	Ronald P. Drainer	217-782-2027
Indiana	Department of Environmental Management	Erik Gonzalez	317-232-8655
	State Budget Agency	Rich Emery	317-232-0759
Iowa	Department of Natural Resources	Shirley Christoffersen	515-281-8156
	Iowa Finance Authority	Barbara Gordon	515-242-4972
Kansas	Kansas Department of Health and Environment	Rodney R. Geisler	785-296-5527
	Kansas Development Finance Authority	Annette Witt	785-296-8083
Kentucky	Kentucky Infrastructure Authority	Marilyn Eaton-Thomas	502-564-2090
	Facilities Construction	Kay Hines	502-564-2225
Louisiana	Louisiana Department of Environmental Quality	Catherine Lundergan	225-765-0810
Maine	Maine Municipal Bond Bank	Karen Asselin	207-622-9386
	Department of Environmental Protection	Bill Brown	207-287-7804
Maryland	Maryland Department of the Environment	Steve Kraus	410-631-3117
Massachusetts	Massachusetts Water Pollution Abatement Trust	Nancy Nystedt	617-367-3900
	Massachusetts Department of Environmental Protection	Andrew Gottlieb	617-292-5800
Michigan	Department of Environmental Quality	Thomas Kamppinen	517-373-2161
	Michigan Municipal Bond Authority	Janet Hunter-Moore	517-373-1728
Minnesota	Minnesota Public Facilities Authority	Jeff Freeman	651-296-2838
	Minnesota Pollution Control Agency	Vickie Krech	651-296-3630
	Minnesota Department of Agriculture	Dwight Wilcox	651-215-1018
Mississippi	Mississippi Department of Environmental Quality	Mark Smith	601-961-5130
	Mississippi State Tax Commission	Alice Gorman	601-923-7670
	Mississippi Department of Finance and Administration	Edward Ranck	601-359-3402
Missouri	Department of Natural Resources	Steve Townley	573-751-1192
	Environmental Improvement & Energy Resources Auth.	Debbie Schnedler	573-751-4919

State	Agency	Contact Name	Phone Number
Montana	Montana Department of Environmental Quality	Todd Teegarden	406-444-5324
	Montana Department of Natural Resources & Conservation	Anna M. Miller	406-444-6689
Nebraska	Nebraska Department of Environmental Quality	Rick Bay	402-471-4200
Nevada	Department of Conservation & Natural Resources	Morris Kanowitz	775-687-4670
	Nevada State Treasurer	Robin Reedy	775-684-5757
New Hampshire	Department of Environmental Services	George McMennamin	603-271-3448
New Jersey	New Jersey Environmental Infrastructure Trust	Maryclaire D'Andrea	609-219-8600
	Department of Environmental Protection	Gene Chebra	609-633-1208
New Mexico	New Mexico Environment Department	Ramona Rael	505-827-2808
New York	NYS Environmental Facilities Corporation	James Flaherty	518-457-3833
	NYS Department of Environmental Conservation	John Cahill	518-457-3446
North Carolina	Department of Environment, Health & Natural Resources	John R. Blowe	919-715-6212
North Dakota	North Dakota Department of Health	Jeffrey C. Hauge	701-328-5211
	North Dakota Municipal Bond Bank	Thomas Tudor	701-328-3981
Ohio	Ohio Environmental Protection Agency	Greg Smith	614-644-2798
Oklahoma	Oklahoma Water Resources Board	Paul Hodge	405-530-8800
Oregon	Department of Environmental Quality	Rick Watters	503-229-6814
Pennsylvania	Pennsylvania Infrastructure Investment Authority	Paul Marchetti	717-783-4496
Puerto Rico	Puerto Rico Environmental Quality Board (PREQB)	Roberto Ayala	787-767-8073
	Puerto Rico Infrastructure Financing Authority	Gabriel Rivera	787-722-4170
Rhode Island	Rhode Island Clean Water Finance Agency	Elizabeth Leach	401-453-4430
	Rhode Island Department of Environmental Management	John J. Manning	401-222-3961
South Carolina	South Carolina Department of Health & Environmental Control	David Price	803-898-3993
	South Carolina Budget and Control Board	Patricia A. Comp	803-737-3808
South Dakota	South Dakota Dept. of Environment & Natural Resources	David Templeton	605-773-4216
Tennessee	TDEC Division of Community Assistance	Jane Lacy	615-532-0457
	Comptroller of the Treasury	Janet Manookian	615-741-4272
	TDEC Division of Fiscal Services	Shirley Thornton	615-532-0315
Texas	Texas Water Development Board	George E. Green	512-463-7853
Utah	Utah Department of Environmental Quality	Walter L. Baker	801-538-6146
Vermont	Department of Environmental Conservation	Larry Fitch	802-241-3742
	Vermont Municipal Bond Bank	Malcolm Rode	802-223-2717
Virginia	Virginia Department of Environmental Quality	Donald Wampler	804-698-4132
Washington	State of Washington Department of Ecology	Brian Howard	360-407-6510
West Virginia	West Virginia Environmental Protection	Mike Johnson	304-558-0641
Wisconsin	DNR, Bureau of Community Financial Assistance	Becky Scott	608-267-7584
	Department of Administration, Clean Water Fund	Michael D. Wolff	608-267-2734
Wyoming	Office of State Lands & Investments	Sharon Garland Jeanne Stephen	307-777-6644
	Department of Environmental Quality	Brian Mark	307-777-6371

Table 6-4. Nonpoint Source Facility Data Sheet

A/F Number								
Facility Record Name								
General Facility Record Description								
Are the BMPs to be implemented privately owned or publicly owned? (If both, separate into two different facility records).					Private		Public	
Is this part of an overall related system of facilities? If yes, what's the name of the overall system? (optional - for state use to organize data)								
Nature of facility	Is this an existing or proposed source? (yes/no)	What's proposed for the facility? (Choose one or more of the following for each nature: new practice, increase capacity, increase level of treatment, rehabilitation, replacement, abandonment, process improvement, no change)						
The following natures may be combined in a single facility record:								
Agriculture - Animals								
Agriculture - Cropland								
Groundwater - Unknown Source								
Hydromodification								
Resource Extraction								
Silviculture								
Storage Tanks								
Urban								
The following natures **may not** be combined in a single facility record:								
Brownfields								
Marinas								
Sanitary Landfills								
Latitude/Longitude Data								
How large an area does the facility cover?							Acres	
If area $ 200 acres, a boundary polygon **must** be used to describe the location of the facility (add as many lines as needed). If area < 200 acres, a single point may be used to describe the location of the facility (a polygon may also be used).								
	Latitude					Longitude		
Point #	Degrees	Min	Sec	N / S		Degrees	Min	Sec	E / W
Source of the Latitude/Longitude Data								
GPS Method								
GPS Datum								
Scale								
Date measurement taken								

Other Geographic Data		
County where place is located (may be more than one only if boundary polygon is used to describe location)		
Congressional district where facility is located (may be more than one only if boundary polygon is used to describe location)		
Watershed (HUC 8 level) where facility is located (may be more than one only if boundary polygon is used to describe location)		
Is the facility located within tribal territory?	yes	no

Needs and Cost Documentation	
Source of Problem Documentation	
Source Name	
Source Author	
Source Date	
Source of Solution Documentation	
Source Name	
Source Author	
Source Date	
Source of Cost Documentation	
Source Name	
Source Author	
Source Date	

Problem, Solution Details		
	Provide Brief Description	**Source, Page #**
Impacted water(s)		
Location of problem(s)		
Description of water quality or public health problem		

Solution to Problem	Unit Cost for Solution	# of Units Needed	Total Cost for Solution(s)	Year of Costs	Source, Page #

NPS Cost Categories

The following 11 cost categories will be used to organize the cost data for the CWNS 2000.

Category VII-A (NPS Agriculture - Cropland). This category covers all costs that address NPS needs caused by agricultural activities such as plowing, pesticide spraying, irrigation, fertilizing, planting, and harvesting. Some typical best management practices that could be used to address needs are

- Agriculture-cropland Conservation tillage
- Nutrient management
- Irrigation water management
- Structural BMPs (terraces, waterways, etc.)

Category VII-B (NPS Agriculture - Animals). This category covers all costs that address NPS needs caused by agricultural activities related to animal production such as confined animal facilities and grazing. Some typical best management practices that could be used to address agriculture-animal needs are

- Animal waste storage facilities
- Animal waste nutrient management
- Composting facilities
- Planned grazing

If your State gives the facility a discharge permit, the needs should be classified instead as Category VIII, Confined Animals - Point Source.

Category VII-C (NPS Silviculture). This category covers all costs that address NPS needs caused by forestry activities, such as removal of streamside vegetation, road construction and use, timber harvesting, and mechanical preparation for the planting of trees. Some typical best management practices that could be used to address silviculture needs are

- Preharvest planning
- Streamside buffers
- Road management
- Revegetation of disturbed areas
- Structural practices and equipment (sediment control structures, timber harvesting equipment, etc.)

Category VII-D (NPS Urban). This category covers all costs that address NPS needs associated with new or existing development in urban or rural settings, such as erosion, sedimentation, and discharge of pollutants (e.g., inadequately treated wastewater, oil, grease, road salts, and toxic chemicals) into water resources from construction sites, roads, bridges, parking lots, and buildings. This category also includes the remediation of privately owned individual sewage disposal systems. Some typical best management practices that could be used to address urban needs are

- Wet ponds
- Construction site erosion and sediment controls
- Sand filters

- Detention basin retrofit
- New on-site sewage disposal system

If the individual sewage disposal system is owned by a public entity, the costs should be included in Category I, Secondary Treatment, instead.

Category VII-E (NPS Ground Water - Unknown Source). This category covers all costs that address ground water protection NPS needs such as wellhead and recharge area protection activities. Any need that can be attributed to a specific cause of ground water pollution, such as leaking storage tanks, soil contamination in a brownfield, or leachate from a sanitary landfill, should be reported in that more specific category.

Category VII-F (NPS Marinas). This category covers all costs which address nonpoint source needs associated with boating and marinas, such as poorly flushed waterways, boat maintenance activities, discharge of sewage from boats, and the physical alteration of shoreline, wetlands, and aquatic habitat during the construction and operation of marinas. Some typical best management practices that could be used to address needs at marinas are

- Bulkheading
- Pumpout systems
- Oil containment booms

Category VII-G (NPS Resource Extraction). This category covers all costs that address NPS needs caused by mining and quarrying activities. Some typical best management practices that could be used to address resource extration needs are

- Detention berms
- Audit closures
- Seeding/revegetation

Any costs associated with facilities or measures that address ***point source*** discharges from mining and quarrying activities that have an identified owner should be included in Category IX, Mining - Point Source.

Category VII-H (NPS Brownfields). This category covers all costs that address NPS needs associated with abandoned, idle, and underused industrial sites. All costs for work at these sites should be included in Category VII-H, regardless of the activity. Some typical best management practices that could be used to address needs at brownfields are

- Groundwater monitoring wells
- In situ treatment of contaminated soils and ground water
- Capping to prevent storm water infiltration

Category VII-I (NPS Storage Tanks). This category covers all costs that address NPS needs caused by tanks designed to hold gasoline or other petroleum products or chemicals. The tanks may be located either above or below ground level. Some typical best management practices that could be used to address storage tank needs are

- Spill containment systems
- In situ treatment of contaminated soils and groundwater

- Upgrade, rehabilitation, or removal of petroleum/chemical storage tanks

If these facilities or measures are part of addressing NPS needs at abandoned, idle, and underused industrial sites (brownfields), the costs go in Category VII-H, Brownfields.

Category VII-J (NPS Sanitary Landfills). This category covers all costs that address NPS needs caused by sanitary landfills. Some typical best management practices that could be used to address needs at landfills are

- Leachate collection or on-site treatment
- Gas collection and control
- Capping and closure

Category VII-K (NPS Hydromodification). This category covers all costs that address NPS needs associated with channelization and channel modification, dams, and streambank and shoreline erosion. Some typical best management practices that could be used to address hydromodification needs are

- Conservation easements
- Swales or filter strips
- Shore erosion control
- Wetland development and restoration
- Bank and channel (grade) stabilization

Any work involved with wetland or riparian area protection or restoration is included under this category.

DOCUMENTATION OF NPS NEEDS

For each facility, the States are required to show both the existence of the need and the cost necessary to satisfy that need. The purpose of documenting the needs and costs for each State is to ensure the national consistency and credibility of the data for inclusion in the CWNS 2000 database.

To keep the data in the CWNS consistent and credible, as well as comparable across the country, all needs documentation is required to (1) show that there is an existing need to prevent or abate a ***water quality*** or ***public health*** problem, and (2) be project-specific. For example, documentation describing a general, countywide problem of septic system failures due to poor soils would be deemed unsuitable to document the needs of a particular town in that county. EPA reviews all documentation submitted by the States to ensure that the documentation complies with these criteria.

Six Basic Documentation Criteria

The following six pieces of data must be provided to document all costs states want included in the Federal estimates in the CWNS 2000 Report to Congress.

1. **A description of the water quality or public health problem**. A description of the water quality impairment and potential source information must be provided. Normally this information may be based on monitoring

reports so that, in the case of nonpoint source pollution, only general source classes, such as urban or agriculture, are identified. Where watershed assessments have been completed, the description of the problem may also include specific pollutant source information (e.g., runoff from a confined animal feedlot, an improperly constructed logging road, a leaking petroleum storage tank, an eroding streambank due to removal of the riparian vegetation) as well as a general statement regarding the water quality impairment. In either case, the problem needs to be attributed to a specific source; a general statement of the cause of water quality impairment is not sufficient.

2. **The location of the problem**. Depending on the type of problem and the size of the area it covers, the location must be either identified with a single latitude/longitude point or described with a polygon of multiple latitude/longitude points. When the impaired "facility" is a watershed, it should always be described as a polygon (discussed in more detail below).

3. **The solution to the problem**. One or more specific best management practices to address the problem need to be identified. NPS best management practices included in the CWNS program are provided in Table 6-5, Nonpoint Source Best Management Practices.

4. **The cost for each solution**. The cost to implement each specified best management practice needs to be provided. Use site-specific data to generate costs, not a general estimate for the overall problems in an area.

5. **The basis of the cost.** The source of the cost (e.g., engineer's estimates, costs from comparable practices, estimates from equipment suppliers) for each solution must be identified. This information allows EPA to judge the credibility of the cost for inclusion in the 2000 CWNS.

6. **The total cost**. This is the total cost of all best management practices documented for the area.

If all six pieces of data are not available, the costs can instead be included in the SSE portion of the CWNS database. Using the Nonpoint Source Facility Data Sheet will help you to organize facility location, problem, and cost documentation data. This table may be valuable even where the six criteria are not met to help identify existing information and identify future data or cost estimating requirements.

Standard Documents

Overall, EPA accepts 30 types of documentation as cost and/or need documentation. Of these 30, the following 10 document types will be most useful for documenting NPS needs and costs. When they are available, use these to justify the need and costs for inclusion in the CWNS 2000. These documents will be accepted without prior review by EPA, although all must be evaluated by EPA before final acceptance for the CWNS 2000.

State Priority List/Intended Use Plan. The priority list and intended use plan are lists of projects ranked by State-assigned criteria for which Federal funding assistance is being sought. The 1-year fundable plus 4-year planning portion of the FY 2000 or 2001 list may be used to document need as long as it was accepted by the EPA region. Projects on the fundable portion of the current intended use plan may also be used for cost estimates. A copy of the appropriate priority list and intended use plans must be submitted to EPA with a copy of the EPA regional office acceptance letter.

State-Approved Area-Wide Plan (208s, 303s). CWA section 208 and 303 Regional Basin Plans are broad-based water quality management plans written primarily in the mid-1970s to identify future planning for areas within a State. These reports study large areas such as basins or counties and usually recommend general solutions to current or anticipated wastewater needs within the planning area. Only section 208 and 303 documents that contain site-specific information and a description of a need may be accepted as documentation of need. Documentation of cost is assessed on a case-by-case basis depending on the amount of detail reported and the source of the information.

Grant Application Form (Step 3 or 4)/SRF Loan. Federal or equivalent state grant applications or SRF applications may be used to document needs and to update costs for the categories in which the grant money is requested. Applications should contain sufficient clearly written narrative that defines the specific project and the water quality and/or public health problem. If an equivalent state grant program application is used as documentation, **the form must be submitted.**

Sanitary Survey (Documenting High Failure Rates) or Certification from a Health Official that a Health Emergency Exists. A Sanitary Survey is a logical, investigative approach to gather information to evaluate the condition of existing on-site wastewater systems. These surveys are performed to document the condition of existing on-site systems for facility planning purposes and to locate sources of water pollution and public health problems. The sanitary survey must document high areawide failure rates that are considered serious enough to be a health hazard (such as ground water contamination caused by malfunctioning septic tanks) in order to document a need. The documentation must clearly state that on-site failures are contributing to a water pollution or health-related problem. The fact that an area has soils unsuitable for septic systems does ***not*** document the need for sewers or a treatment plant. Communities with populations of less than 10,000 will be able to use a letter from a registered State or County Sanitarian or Professional Engineer with documentation or other evidence of a site visit that supports the determination of need. EPA will review this documentation on a case-by-case basis. The documentation provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Funding Applications. All applications for funding (with signed agency review sheets, e.g., Rural Economic and Community Development—formerly FmHA, Community Development Block Grant—HUD) other than SRF are acceptable for need. The application is acceptable for cost if an engineering report is reviewed by qualified state project staff.

Nonpoint Source Management Plan/Assessment Report. A Nonpoint Source Management Plan is developed by a State to address nonpoint source pollution problems. Elements in the plan include identification of the best management practices and measures to reduce pollutant loading, programs to achieve implementation, a schedule with annual milestones, costs, and identification of specific projects; certification that the laws of the State will provide adequate authority to implement the plan; and sources of funding and assistance. A Nonpoint Source Assessment Report assesses the extent of pollution due to diffuse or nonpoint sources within a State. The report identifies navigable waters that require nonpoint source controls to

achieve CWA water quality standards, sources and amounts of such pollution, and State and local control programs. It also describes the process that will be used to identify best management practices. EPA will consider other documentation, such as nonpoint source grant applications and States' surveys, on a case-by-case basis. This plan/report provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Nonpoint Source Management Plan/Ground Water Protection Strategy. States may use a Comprehensive Ground Water Protection Strategy to document NPS needs if the strategy is part of a Nonpoint Source Management Program. The goals of this major Federal initiative addressing ground water protection are to strengthen State ground water programs; deal with significant, poorly addressed ground water problems; create a policy framework within EPA for the guidance of ground water policy; and strengthen the ground water organization within EPA. Included in such a strategy are programs established under the Safe Drinking Water Act (SDWA) such as regulation of the injection of wastes into deep wells, the Wellhead Protection Program, and the Sole Source Aquifer program. Provisions in the Resource Conservation and Recovery Act (RCRA) for leaking underground storage tanks, goals in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for contaminated ground water sites, and State grant programs in the CWA for ground water protection activities are covered by this strategy. This plan/strategy provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Nonpoint Source Management Plan/Well-Head Protection Program and Plan. A Well-Head Protection Plan may be used to document NPS needs if it is part of a Nonpoint Source Management Program. As part of its overall ground water protection strategy, each State must delineate well-head protection areas for wells or well fields used for public water supply. Contaminant sources within the well-head protection area must be identified and a management plan developed to protect the water supply in that area from contamination. Contingency plans for each public water supply system must be developed to ensure an appropriate response in the event that contamination occurs, and standards must be established for locating new wells so as to minimize the potential for contamination of the water supply. This plan provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Nonpoint Source Management Plan/Delegated Underground Injection Control Program Plan. States can document needs to address NPS aspects of a Delegated Underground Injection Control Program Plan if it is part of the State's Nonpoint Source Management Program. As part of the Safe Drinking Water Act, EPA and State Underground Injection Control Programs were established to protect potential underground sources of drinking water from contamination by injection wells. This plan provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Estuary Comprehensive Conservation Management Plan. A Comprehensive Conservation Management Plan (CCMP) is a management plan developed for an estuary that has been nominated for the CWA section 320 National Estuary Program. The CCMP summarizes findings, identifies and establishes a priority for addressing problems, determines

environmental quality goals and objectives, identifies action plans and compliance schedules for pollution control and resource management, and ensures that designated uses of the estuary are protected. This plan provides documentation for basic documentation criteria 1, 2, and 3 only; separate documentation must be provided for cost.

Other Potential Sources of Documentation

The documents you use to show both the existence of the need and the cost necessary to satisfy that need are not limited to the pre-approved list provided below. Any documents that contain one or more of the six basic criteria will be considered.

The following documents are potential sources of documentation that meets some or all of the six basic documentation criteria. ***Each document must be individually reviewed by EPA before it is accepted as documentation for the CWNS 2000.***

Potential sources of documentation that meets basic documentation criteria 1, 2, and 3:

- Watershed management plans
- Total Maximum Daily Load (TMDL) reports
- Basin planning documents
- Agricultural transect surveys
- Natural Resources Conservation Service (NRCS) farm plans
- Biological and water quality studies for a specific area
- Wasteload Allocation studies
- State section 305(b) reports on State-identified priority waterbodies.
- Regional and/or basin plans (sections 303 and 208)

Potential sources of basic documentation criteria 4 and 5:

- State or Federal Agriculture Cost-Share Program Average Practice Cost Tables
- Established wetland mitigation fees (per acre cost)
- Calculated pollution offset fees (charged on a per kilogram of pollutant basis)

Review of Alternative Sources of Documentation

If you use a piece of documentation other than the 10 items described above, you must ***first*** have the documentation reviewed and accepted by EPA.

To make it easier for EPA to assess the appropriateness of the documentation for the 2000 Survey, you should complete either the Nonpoint Source Facility Data Sheet or the NPS Alternative Documentation Review Worksheet and send it with the documentation to the CWNS contractor for review. Using these worksheets will speed up the review by the contractor, but all such requests need to be made early because they take time to process.

If your request to use a certain piece of documentation is rejected and you still believe it has merit, contact your Regional CWNS Coordinator, who will contact EPA headquarters and the contractor on your behalf.

What Happens If EPA Doesn't Accept My Documentation?

For many states, water quality impairment due to nonpoint source pollution has been documented. The primary difficulty might be in identifying a specific solution to the problem.

When EPA determines that State documentation does not meet the EPA-defined criteria for needs documentation, the needs will instead be reported in the CWNS as SSEs.

In addition, States may directly enter SSEs for needs that they believe are valid but are not supported by documents meeting EPA's criteria. EPA will not review the documentation for SSE needs entered directly by states.

NPS APPROACH FOR THE CWNS 2000

Although the new CWNS database system has been designed to better accommodate nonpoint source needs, there are still some special considerations for nonpoint source needs that must be taken into account for the Survey effort.

What Is a "Facility" When You Are Talking About NPS?

Your needs survey data will go into a typical database as a single unique record. Each record will contain data about a place (called a "facility") and will be identified with a unique identifying number (called an Authority/Facility or A/F Number). Each place in the database can be made up of one or more sources, called "natures." Thus, a single record for nonpoint source places could be a single place, say "Poe Ditch" with a nonpoint source nature of *Agricultural - Cropland,* or it could be the "North Fork Portage River watershed" with multiple nonpoint source natures of A*gricultural - Cropland, Agricultural - Animals*, and *Resource Extraction*.

An analogous record for a point source would be a single wastewater treatment plant with the nature of the facility being *Treatment Plant* or a wastewater treatment system with multiple natures of *Treatment Plant, Biosolids Handling Facility,* and *Collection: Separate Sewers.*

Whether you want to record your data as discrete individual places (facilities) or combine them into logical combinations of multiple natures is your decision, based on how you want to organize your data. However, there are restrictions on combining different natures, as described below.

Restrictions on NPS Nature Combinations

Although there are 11 different nonpoint source natures, not all can be combined in the same facility record. The following restrictions apply to combinations:

1. Natures are divided into three source subgroups—point source, storm sewer system, and nonpoint source. No single facility record may contain natures from different source subgroups. In other words, nonpoint source natures may be combined only with other nonpoint source natures in a single facility record.

2. The following NPS natures cannot be combined with other NPS natures in the same record, but instead must be individually listed in the database:
   - — Brownfields
   - — Marinas
   - — Sanitary Landfills
3. The following NPS natures may be combined with each other in the same record:
   - — Agriculture - Animals
   - — Agriculture - Cropland
   - — Ground Water - Unknown Source
   - — Hydromodification
   - — Resource Extraction
   - — Silviculture
   - — Storage Tanks
   - — Urban

How Big May an NPS "Facility" Be?

The size of a facility will vary depending on the nature of the NPS facility and the documentation available to meet the six basic criteria described earlier.

For the NPS natures that cannot be combined with other NPS natures in the same facility record (Brownfields, Marinas, and Sanitary Landfills), the area covered by the facility is as large as the pollutant source itself. For example, if the nature of the facility is *Sanitary Landfill*, the size of the facility will be limited to the size of the landfill itself.

For the NPS natures that may be combined with other NPS natures in the same facility record (Agriculture - Animals, Agriculture - Cropland, Ground Water - Unknown Source, Hydromodification, Resource Extraction, Silviculture, and Storage Tanks), the area covered by the facility can be any size as long as documentation is available to describe the specific location of the problem(s).

How Many Latitude/Longitude Points Do I Need To Describe the Facility?

The CWNS database requires geographic data for the location of the water quality or public health impact. In addition to data such as county name, 8-digit HUC watershed name, and congressional district, a point or points of latitude/longitude are required for each facility record.

If the area covered by the NPS facility is equal to or greater than 200 acres (to convey a sense of scale, this could be an approximately circular watershed area that is 1,000 meters in diameter), a boundary polygon with a minimum of four latitude/longitude points **must** be used to describe the location of the facility. If the area covered by the NPS facility is smaller than 200 acres, a single latitude/longitude point may be used to describe the location of the facility.

Many nonpoint source facilities in the CWNS may be defined as a single latitude/longitude point using this size criteria. However, each State CWNS Coordinator has the option of describing an area smaller than 200 acres by a polygon boundary.

FREQUENTLY ASKED QUESTIONS

What Cost Category Should This Need Go Under?

Question: I'd rather put the costs for conservation easements in Category VII-A, rather than Category VII-K. Why can't I put the costs where I think they should go?

Answer: For reports generated from the CWNS data to provide a consistent answer between states, it is important that all states enter data into the CWNS using the same assumptions. If each state decided how it wanted to categorize NPS data for the CWNS, any reporting that used the separate categories would not be valid. Therefore, all states must use the same definitions for the cost categories.

Question: Where do I put needs to address NPS pollution from recreational activities?

Answer: Recreation takes a variety of forms across the country, including off-road recreational vehicle use, boating, equestrian access, hiking, and swimming. Many of these recreational activities affect water quality to one degree or another. Documentation of cost needs should be included in one of the following cost categories:

- Category VII-D Urban
- Category VII-F Marinas
- Category VII-K Hydromodification

NPS needs associated with water quality impacts associated with boating should be included under Category VII-F (Marinas). Needs associated with road-based recreational activities or the operation of mechanized vehicles should be included under Category VII-D (Urban). NPS needs associated with all trail- or water-based recreational activities, including equestrian access, hiking, swimming, and canoeing/kayaking, should be included under Category VII-K (Hydromodification).

Question: Where do I put individual or small on-lot disposal system costs (for either new construction or upgrade of existing)?

Answer: If the disposal system is owned by a public entity, the costs go under Category 1 (Secondary Treatment). If the disposal system is privately owned, the costs go under Category VII-D (Urban).

Question: If the NPS pollution is caused by atmospheric deposition, what cost category do I use for costs to address the NPS pollution?

Answer: Atmospheric deposition is recognized as a significant source of nonpoint source pollution. Because the CWNS does not include a cost

category for this source, states will need to differentiate needs costs between the different sources of atmospheric emissions. Four major atmospheric source components contribute to atmospheric deposition. These include major industrial dischargers (regulated as point sources for atmospheric emissions), minor urban sources (including localized urban and automobile sources), public wastewater treatment facilities (where surface water discharge permits are required), and confined animal operations (where nondischarge permits prohibit discharge to surface waters, but do not regulate atmospheric deposition). Permitted industrial and wastewater treatment facilities should be included in appropriate point source categories. Minor urban source cost needs should be included in Category VII-D (Urban) as urban nonpoint pollution sources. Treatment costs for atmospheric discharge from all confined animal waste operations, whether permitted facilities or not, should be included under Category VII-B (Agriculture - Animals) as nonpoint source pollution from animal agriculture.

Other General Questions

Question: Why shouldn't I put landfills and hydromodification NPS natures in the same facility record?

Answer: Although the CWNS database will let you put these natures together in the same facility record, EPA decided for the CWNS 2000 effort that states should separate out certain NPS natures to make data entry, especially geographic data, as specific and as logical as possible.

Singular sources of NPS pollution such as a sanitary landfill, marina, or brownfield can be identified relatively easily as a specific location, with specific practices to address the pollution. Other natures (such as Agriculture - Animals, Resource Extraction, and Silviculture) lend themselves better to grouping in a watershed "facility" both by the source of pollution and by the documentation available to justify the need and cost.

Question: Why do I need to use a boundary polygon to describe the location of larger NPS facilities. Why can't I just use a centroid point of record?

Answer: The Point of Record (POR) of a facility describes its physical location, placing the facility within a county, a HUC8 watershed, a congressional district, and a state. In those cases where a facility is large enough to start affecting multiple counties, watersheds, etc., a more accurate picture of where the facility is and what it is affecting can be provided only with a boundary polygon.

Question: What is this "A/F Number" and where do I get it?

Answer: The Authority/Facility (A/F) Number is the unique number used to identify each facility record in the CWNS database. These numbers are assigned by the State CWNS Coordinator.

Question: What's the difference between the cost category VII-B (NPS Agriculture - Animals) and the nature Agriculture - Animals? Aren't they the same thing?

Answer: Although they sound the same, cost categories and natures are used in the CWNS database in two very different ways. The cost category is used to organize the cost data in the CWNS in a systematic and consistent way. The nature (or natures) for each place (called a "facility") describes the pollution-generating activities at that place (in other words, the pollution source). The fact that the names are similar should make it easier for State CWNS Coordinators to put NPS costs into the correct cost category.

Table 6-5. Nonpoint Source Best Management Practices

The following best management practices are provided for your use in describing the practices either in place or proposed for each NPS facility record.

Agricultural Sources	**Agricultural Sources (cont.)**	**Agricultural Sources (cont.)**
Alley Cropping	Heavy Use Area Protection (561)	Open Channel (582)
Access Road (560)	Hedgerow Planting (422)	Pasture and Hay Planting (512)
Animal Trails and Walkways (575)	Herbaceous Wind Barriers (422A)	Pest Management (595A)
Bedding (310)	Hillside Ditch (423)	Pipeline (516)
Brush Management (314)	Irrigation Canal or Lateral (320)	Pond (378)
Channel Vegetation (322)	Irrigation Field Ditch (388)	Pond Sealing/Asphalt-Sealed Fabric Liner(521E)
Chiseling and Subsoiling (324)	Irrigation Land Leveling (464)	Pond Sealing/Bentonite Sealant (521C)
Clearing and Snagging (326)	Irrigation Pit/Reg. Reserv., Irrigation. Pit (552A)	Pond Sealing/Cationic Eml-Watrbrn Seal (521D)
Commercial Fishponds (397)	Irrigation Pit/Reg. Reserv., Reg. Reserv. (552B)	Pond Sealing/Flexible Membrane (521A)
Composting Facility (317)	Irrigation Storage Reserv. (436)	Pond Sealing/ Soil Dispersant (521B)
Conservation Cover (327)	Irrigation System, Sprinkler (442)	Precision Land Forming (462)
Conservation Crop Rotation (328)	Irrigation System, Surface & Subsurface (443)	Prescribed Burning (338)
Contour Buffer Strips (332)	Irrigation System, Tailwater Recovery (447)	Prescribed Grazing (528A)
Contour Farming (330)	Irrigation System, Trickle (441)	Pumped Well Drain (532)
Contour Orchard and Other Fruit Area (331)	Irrig H_20 Conv Ditch&Can Lin Flex Mem (428B)	Pumping Plant for Water Control (533)
Controlled Drainage (335)	Irrig H_20 Conv Ditch&Can Lin Galv Steel (428C)	Range Planting (550)
Cover and Green Manure Crop (340)	Irrig H_20 Conv Ditch&Can Lin Nonrnf Con (428A)	Recreation Area Improvement (562)
Critical Area Planting (342)	Irrig H_20 Conv, Pipe, Aluminum Tub (430AA)	Recreation Land Grading and Shaping (566)
Cross Wind Ridges (589A)	Irrig H_20 Conv, Pipe, HP, Underg Plastic(430DD)	Recreation Trail and Walkway (568)
Cross Wind Stripcropping (589B)	Irrig H_20 Conv, Pipe, LP, Undergr Plastic(430EE)	Regulating Water in Drainage Systems (554)
Cross Wind Trap Strips (589C)	Irrig H_20 Conv, Pipe, Nonreinf Concrete (430CC)	Residue Management, Mulch Till (329B)
Dam, Diversion (348)	Irrig H_20 Conv, Pipe, Rigid Gated Pipe (430HH)	Residue Management, No/Strip-Till (329A)
Dam, Floodwater Retarding (402)	Irrig H_20 Conv, Pipe, Steel (430FF)	Residue Management, Ridge Till (329C)
Dam, Multiple-Purpose (349)	Irrigation Water Management (449)	Residue Management, Seasonal (344)
Dike (356)	Land Clearing (460)	Riparian Forest Buffer (391A)
Diversion (362)	Land Recl, Fire Control (451)	Rock Barrier (555)
Fence (382)	Land Recl, Highwall Treat (456)	Roof Runoff Management (558)
Field Border (386)	Land Recl, Landslide Treat (453)	Row Arrangement (557)
Filter Strip (393A)	Land Recl, Shaft and Adit Closing (452)	Runoff Management System (570)
Firebreak (394)	Land Recl, Subsidence Treatment (454)	Sediment Basin (350)
Fish Raceway or Tank (398)	Land Recl, Toxic Discharge Control (455)	Soil Salinity Management-Nonirrigated (571)
Fish Stream Improvement (395)	Land Recon, Abandoned Mined Land (543)	Spoil Spreading (572)
Fishpond Management (399)	Land Recon, Currently Mined Land (544)	Spring Development (574)
Floodwater Diversion (400)	Land Smoothing (466)	Stream Channel Stabilization (584)
Floodway (404)	Lined Waterway or Outlet (468)	Streambank and Shoreline Protection (580)
Forage Harvest Management (511)	Manure Transfer (634)	Stripcropping , Contour (585)
Forest Harvest Trails & Landings (655)	Methane Generation	Stripcropping , Field (586)
Forest Site Preparation (490)	Mine Shaft and Adit Closing (457)	Structure for Water Control (587)
Forest Stand Improvement (666)	Mole Drain (482)	Subsurface Drain (606)
Grade Stabilization Structure (410)	Mulching (484)	Surface Drainage , Field Ditch (607)
Grassed Waterway (412)	Nutrient Management (590)	Surface Drainage, Main or Lateral (608)
Grazing Land Mech. Treatment (548)	Obstruction Removal (500)	Surface Roughening (609)

Table 6-5. Nonpoint Source Best Management Practices (continued)

Agricultural Sources (cont.)

Terrace (600)
Toxic Salt Reduction (610)
Tree/Shrub Establishment (612)
Tree/Shrub Pruning (660A)
Trough or Tank (614)
Underground Outlet (620)
Use Exclusion (472)
Vegetative Barriers Vertical Drain (630)

Agricultural Sources (cont.)

Waste Management System (312)
Waste Storage Facility (313)
Waste Treatment Lagoon (359)
Waste Utilization (633)
Water and Sediment Control Basin (638)
Water Harvesting Catchment (636)
Water Table Control (641)
Waterspreading (640)

Agricultural Sources (cont.)

Well (642)
Well Decommissioning (351)
Wetland Development or Restoration (657)
Wildlife Upland Habitat Management (645)
Wildlife Watering Facility (648)
Wildlife Wetland Habitat Management (644)
Windbreak/Shelterbelt Establishment (380)
Windbreak/Shelterbelt Renovation (650)

Urban: Structural

Infiltration basins
Infiltration trenches
Grassed swales
Pervious pavements
Dry wells
Dry detention practices
Extended dry detention practices
Wet detention practices
Constructed wetlands
Filtration systems
Vegetated filter strips
Bioretention systems
Water quality inlets
Extended detention ponds
Wet ponds
Constructed wetlands
Filtration basins and sand filters
Water quality inlets
Catch basin inserts
Coagulant injection system
Pesticide Management Plans

Urban: Construction Site Chemical Control

Properly store, apply&dispose of petrol. products
Concrete mixing pad
Store, cover, and isolate construction materials.

Urban: Construction Site Chemical Control (cont.)

Develop&implement spill prevention&control plan
Adequate disposal facilities for solid waste

Urban: Erosion and Sediment Control

Slope drains
Temporary vegetative cover
Permanent vegetative cover

Urban: Erosion Control/Prevention

Cover or stabilize topsoil stockpiles
Wind erosion controls
Diversions
Seed and fertilize
Mulch/mats
Sodding
Wildflower cover
Sediment basins
Sediment trap
Filter fabric fence
Straw bale barrier
Inlet protection
Construction entrance
Vegetated filter strips

Hydromodification

Soil bioengineering
Shore erosion control
Acquire wetlands/riparian areas

Hydromodification (cont.)

Restore wetlands/riparian areas
Design/install constructed wetlands
Design/install infil. system (swales, filter strips)

Resource Extraction

Silt fence
Erosion control blanket
Straw bales
Detention berms
Riprap/Gabions
Sediment trap
Retention ponds
Lime treatment
Adit closures
Constructed wetlands
Seeding/revegetation

Forestry Management Practices

Preharvest Planning
Streamside Management Areas (SMAs)
Road Construction/Reconstruction
Road Management
Timber Harvesting
Site Preparation and Forest Regeneration
Fire Management
Revegetation of Disturbed Areas
Forest Chemical Management
Forestry Operations in Wetlands

Table 6-6. NPS Alternative Documentation Review Work Sheet

Complete this review worksheet and attach it to any alternative sources of documentation to be reviewed by EPA for use as nonpoint source needs and cost justification. Use one worksheet for each Facility Record.

A/F Number	
Facility Record Name	

Source of Problem Documentation	
Source Name	
Source Author	
Source Date	

Source of Solution Documentation	
Source Name	
Source Author	
Source Date	

Source of Cost Documentation	
Source Name	
Source Author	
Source Date	

	Provide Brief Description	**Source, Page #**
Impacted Water(s)		
Location of Problem(s)		
Area Impacted (acres)		
Description of Water Quality or Public Health Problem		

Solution to Problem	**Unit Cost for Solution**	**# of Units Needed**	**Total Costs for Solution(s)**	**Year of Costs**	**Source, Page #**